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THE COCHYLIDAE-FAUNA OF LIBYA
(LEPIDOPTERA, TORTRICIDAE; TORTRICINAE)

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A b s t r a c t : On the basis of a study of recently collected lepidoptera in Libya and Turati's papers on the Libyan fauna, the so called "Cochylidae" are revised. Neotypes of *Euxynthis mirabilana* (TURATI 1934), *Euxanthis numidana* (TURATI 1924), *Euxanthis translucidana* (TURATI 1934) and *Euxanthis cinnamomella* (TURATI & KRÜGER 1936) are designated. Imagines and genitalia of both sexes of *Cochylimorpha asiana* (KENNEL 1899) and *C. cultana* (LEDERER 1855) are figured and compared. Any "Cochylidae" mentioned by Turati are commented on and compared with Razowski's work on the "Cochylidae".

K e y w o r d s : Lepidoptera, Tortricidae, Neotypes, Libya.

Introduction

In the past the Cochylidae were looked upon as a family in the Tortricoidea and treated like that in *Microlepidoptera Palæarctica*, vol. 3 (RAZOWSKI 1970). Now they are a part of the *Tortricinae* in the Tortricidae family (KRISTENSEN 1985). There are still good practical reasons to treat the "Cochylidae" separately.

The lepidopterous fauna of Libya is not very well known, and mainly investigated by Turati, who in a series of papers from 1921 - 1936 described

the fauna broadly and at the same time made descriptions of several new species and forms, based mainly on collections of G. Krüger.

Most of the Turati collection has been destroyed by *parasites* and it is now impossible to examine most of the types. It is of that reason a great puzzle to put the correct names on the descriptions. Many common species in the Mediterranean area are looking rather different within the different parts, and that might be the reason why Turati described so many lepidoptera from Libya as new species or forms.

Following Berio (in litt.) the Turati collection in 1970 was transferred to the Hartig collection, but then it was already severely damaged. After the death of Hartig these two collections have been divided. The types are partly in the British Museum of Natural History and partly in the Regional Museum of Torino together with the other part of the collection. Unluckely they are stored until they can be placed at a new museum under construction.

In 1983 my good friend Uffe Seneca was working in Libya, and at the same time he collected very many Lepidoptera now deposited mainly in the collection of the Zoological Museum of Copenhagen (ZMUC) and in my own collection. That material makes it possible to designate neotypes and to revise some of the problems. As the papers of Turati also are very difficult to get hand off, and as I have had the luck to get them all, the present paper will deal with both the recently collected material and all the "Cochylidae" from Libya mentioned in the papers of Turati.

Systematic part

Trachysmia ochralana (CHRÉTIEN 1915)

Libya. Cirenaica: Bengasi, 7 specimens October, 1921 (TURATI 1924). Not mentioned by RAZOWSKI (1970).

Libya. Tripolitania: Jefren, 1 specimen October 1935, A. Fiori, coll. ZZSK (RAZOWSKI 1970).

Trachysmia syrtana (RAGONOT 1888)

Libya. Cirenaica: Bengasi October 1921 (TURATI & ZANON 1922, TURATI 1924). Not mentioned by RAZOWSKI (1970).

M a t e r i a l e x a m i n e d : Libya. Gharian: Wadi El Hira, 1 ♀ January 1983 (leg. U. Seneca, coll. K. Larsen). Genital slide 3067 K. Larsen.

Cochylimorpha asiana (KENNEL 1899) (Fig. 1, 3, 5)

Libya. Cirenaica: Gerdes, 1 specimen 29.3.1933, Mechili, 1 specimen 28.3.1933 (TURATI 1934: 195, pl. 3 fig. 23). Type localities for the synonym *Euxanthia mirabilana* TURATI. Type-material lost.

M a t e r i a l e x a m i n e d : 3 ♂♂, 5 ♀♀ Libya. Gharian: Wadi El Hira, 25.3.-11.5.1983 (leg. U. Seneca, coll. K. Larsen & ZMUC). These specimens correspond very fine with Turati's description of *E. mirabilana* and with the figure of the same species.

D i a g n o s e : Wingspan 10-16 mm. Sexual dimorphism not pronounced. Male antenna strogly ciliate. Labial palpus rather short and broad, white mixed with ochreous especially on the sides. Head white mixed with ochreous. Thorax of the same colour but darker. Ground colour creamy white, more pronounced ochreous in the terminal part and more or less stigulate ochreous. Drawings are a little more darker brown and consist of a weak angulate basal fascia, a broad median fascia often narrow at costa, a small postmedian fascia and a rather big pre-apical spot very often reaching tornus. Cilia of the ground colour with a darker sub-basal line and with continuous brown markings. Hindwings are light grey, darker at apex. Cilia whitish with a weak brown sub-basal line.

G e n i t a l i a . M a l e . Compared with *C. cultana* (LEDERER) from the same locality the differences are as follows. The whole structure is about 2/3 of *C. cultana*, but sacculus is longer and valva is more sclerotized. Transtilla broad and more spined with smaller spines than at *C. cultana*. Socii are broader and bigger. Aedeagus is nearly as big as in *C. cultana*, but it is more straight and the big cornuti are only 2/3 of the one in *C. cultana*. Besides *C. cultana* has two small cornuti which are absent in *C. asiana*.

G e n i t a l i a . F e m a l e . The female genitalia are in the whole structure only half as big as in *C. cultana*. The big sclerotized plate in the bursa are comparatively bigger. The spines are less and smaller and are deposited in the lower area. As the type of *Euxanthia mirabilana* TURATI 1934 is lost a neotype from the present material has been designated. It is labeled: 1) LIBYA, Gharian, Wadi El Hira 30.4.1983 Uffe Seneca, coll. K. Larsen. 2) *C. asiana*, p. 3066 ♂. 3) Neotype ♂ *Euxanthia mirabilana* (TURATI 1934), design. K. Larsen 1987. The neotype is kept in the collection K. Larsen.

Cochylimorpha cultana (LEDERER 1855). (Fig. 2, 4, 6)

Libya. Tripolitania: Mentioned as *Phalonia pontana* STGR. in a list of species without further notes (TURATI 1929). Not mentioned by RAZOWSKI (1970)

M a t e r i a l e x a m i n e d : 15 ♂♂, 18 ♀♀. Libya. Gharian: Wadi El Hira, 5.4.-7.5.1983 (leg. U. Seneca, coll. K. Larsen & ZMUC). The specimens are without variation and can easily be separated from *C. asiana* by the clear contrasting drawings. The ground colour is more yellow and the drawings are dark brown. The genitalic differences are described under *C. asiana*.

D i s c u s s i o n : As the two taxa in Libya are flying at the same locality at the same time of the year, and as they show little variation in each taxa in outlook and genitalic characters, and as they show rather big and constant differences, they must with no doubt be looked upon as separate species. The question is about whether *C. mirabilana* (TURATI 1934) really is conspecific with *C. asiana* or it should be regarded as a separate species. The nearest locality from Libya is Caucasus and Afghanistan, and it would be very interesting to see material from localities closer to Libya.

Cochylimorpha chamomillana (HERRICH-SCHÄFFER 1851)

Libya. Cirenaica: Bengasi, February. Mentioned as *Phalonia chamomillana* (HS.) without further notes (TURATI 1926).

Libya. Tripolitania. Mentioned as *Phalonia chamomillana* (HS.) without further notes (TURATI 1929).

None of these findings are mentioned by RAZOWSKI (1970). As no material exists the findings need further confirmation.

Cochylimorpha straminea (HAWORTH 1811) (Fig. 7)

Libya. Cirenaica: Bengasi, 1 specimen 20.3.1922 (TURATI 1924). Turati described this only specimen as a new species *Euxanthis numidana* (TURATI 1924: p. 156, Pl. 5, fig. 51), although in his description he corresponds it with *C. substraminea* (RAG.), which is a synonym to *C. straminea*. Turati's description and the colour picture of *E. numidana* are matching perfectly with light specimens of *C. straminea* from Libya, and it is therefore considered to be a new synonym to *C. straminea*.

Libya. Cirenaica: Rus Hamra, 1 specimen 1.4.1933, Gerdes, 29.3.1933 as *Euxanthis numidana* TURATI (TURATI 1934). The name *E. numidana* is also used for a specimen from Italy, Sicily: Palermo, Casteldaccia (leg. M. Mariani) (TURATI 1931). *Euxanthis numidana* (TURATI 1924) is not treated by RAZOWSKI (1970).

Libya. Cirenaica: Mechili, 2 specimen 28.3.1933. On the basis of these two specimens Turati described *Euxanthis translucidana* (TURATI 1934: p. 194, pl. 3 fig. 22), which is treated by Razowski (1970) as an unsolved species close to *E. numidana*, although he does not treat *E. numidana*. Turati's description translated into German in RAZOWSKI (1970) and the picture of *E. translucidana* corresponds perfectly with Libyan specimens of *C. straminea*, and it is therefore considered to be a new synonym to *C. straminea*.

Libya. Cirenaica: Scleidima, 2 specimens 21.11.1935 (TURATI & KRÜGER 1936). On the basis of these two specimens Turati & Krüger described *Euxanthis cinnamomella* (TURATI & KRÜGER 1936: p. 75, pl. 11, fig. 24). Later RAZOWSKI (1970) synonymized it with *C. alternana* (STEPHENS 1834). As the description and the figure in Turati & Krüger shows close resemblance with light forms of *C. straminea* from Libya, *E. cinnamomella* is considered to be a synonym to *C. straminea*. *Cochylimorpha alternana* is not found in Libya. It is remarkable that the synonymy of *E. cinnamomella* to *C. alternana* was the basis of the only findings of *C. alternana* south of the mediterranean sea.

Examined material: 9 ♂♂, 6 ♀♀. Libya. Gharian: Wadi El Hira, 25.3.-20.5.1983 (leg. U. Seneca, coll. K. Larsen & ZMUC). Wingspan 14-22 mm. Most specimens about 22 mm. Ground colour ochreous yellow and very

plain. Drawings light brown. Median fascia reaching two thirds of the wing and compared with other forms of *C. straminea* rather broad. Brown shadows in the distal part of the wing. Strigula along the outer half of costa and on dorsum. On termen often an unbroken line. Frons yellowish whitish. Hindwings very light grey, darker in the female. Genital-preparations of several males and females from Libya, Greece, Crete and Denmark show very little variation.

D i s c u s s i o n : *C. straminea* from Denmark vary from 12-14 mm in wingspan, in England from 15-20 mm (BRADLEY, TREMEVAN & SMITH 1973) and in Libya from 14-22 mm. The Libyan specimens are looking immediately like a form of *C. alternana*, and it was quite surprising that they showed up to be *C. straminea*. As furthermore it is a very variable species also within Libya that might be the reason why Turati described *C. straminea* as a new species three times. *C. straminea* in south Europe has at least three broods and they are probably looking different as it is the case in Denmark. In RAZOWSKI (1970) nine different synonyms to *C. straminea* are listed. As the types of *Euxanthis numidana* (TURATI 1924), *Euxanthis translucidana* (TURATI 1934) and *Euxanthis cinnamomella* (TURATI & KRÜGER 1936) are lost, neotypes from the present material have been designated.

- A. 1) LIBYA, Gharian, Wadi El Hira, 5.4.1983 Uffe Seneca, coll K. Larsen.
 2) *C. straminea*, p. 3052 ♂. 3) Neotype ♂ *Euxanthis numidana* (TURATI 1924) design. K. Larsen 1987.
- B. 1) LIBYA, Gharian, Wadi El Hira, 17.5.1983 Uffe Seneca, coll. K. Larsen.
 2) *C. straminea*, p. 3054 ♂ 3) Neotype, ♂ *Euxanthis translucidana* (TURATI 1934), design. K. Larsen 1987.
- C. 1) LIBYA, Gharian, Wadi El Hira, 6.5.1983 Uffe Seneca, coll. K. Larsen.
 2) *C. straminea*, p. 3053 ♀. 3) Neotype, ♀ *Euxanthis cinnamomella* (TURATI & KRÜGER 1936), design. K. Larsen 1987.

The neotypes are kept in the collection K. Larsen.

C. straminea is very common in Morocco but one *Cochylimorpha* specimen from Morocco is determined by Razowski to *C. alternana* (STEPHENS 1834). Morocco. Plaine du Tadla: Afourèr, marts (RUNGS 1979). If this specimen is of the Libyan types, and if it is not examined with genitalpreparation it might as well be a form of *C. straminea*. *C. alternana* is not mentioned from Spain and Portugal as far as I know.

Aethes deaurana (PEYERIMHOFF 1877)

Libya. Cirenaica: Bengasi, 1 specimen 4.3.1922 (TURATI 1924). Turati described this specimen as a new species: *Lozopera fuscicella* (TURATI 1924). Later RAZOWSKI (1962) synonymized it with *A. deaurana* on the basis of the description and the picture. In 1970 RAZOWSKI designated a neotype male with the label: Philippeville, Algeria, 9.v.1904. It is placed in coll. BMNH. Material from Libya is needed for further studies.

Aethes tornella (WALSINGHAM 1898)

Libya. Cirenaica: Bengasi, 4 specimen March and May, 1922 (TURATI 1924). No material is left. The findings need further confirmation. Not mentioned by RAZOWSKI (1970).

Aethes mauritanica (WALSINGHAM 1898)

Libya. Cirenaica: Fuehat, September 1919 (TURATI & ZANON 1922, TURATI 1929). As no material exists the findings need further confirmation. Not mentioned by RAZOWSKI (1970).

Libya. Cirenaica: Bengasi, 4 specimens 17.4. and 1.5.1922 (TURATI 1924). On the basis of those four specimens Turati described *Lozopera cornelia* (TURATI 1924). Later RAZOWSKI (1962) synonymized it with *A. mauritanica* on the basis of the description and the picture. In 1970 RAZOWSKI designated a neotype with the label: Asia min. (or) Turcia, 50 km östl. (ich) Istanbul, 6.7. (19)65, 50 m ü. (ber) M. (eeresspiegel), leg. M. u. (nd) W. Glaser. The type is in coll. ZZSK (RAZOWSKI 1970). There is a single typespecimen of *L. cornelia* in coll. BMNH, but it is in bad condition and without abdomen (TUCK, in litt.). Material from Libya is needed for further studies.

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1mm

Fig. 1 - *Cochylimorpha asiana* (KENNEL), ♂ fig. 2 - *Cochylimorpha cultana* (LED.), ♂ fig. 3 - *Cochylimorpha asiana* (KENNEL), ♂-genitalia, G-slide 3066, K.Larsen, Libya, Gharian: Wadi El Hira, 30.4.1983 (U.Seneca, coll.K.Larsen).

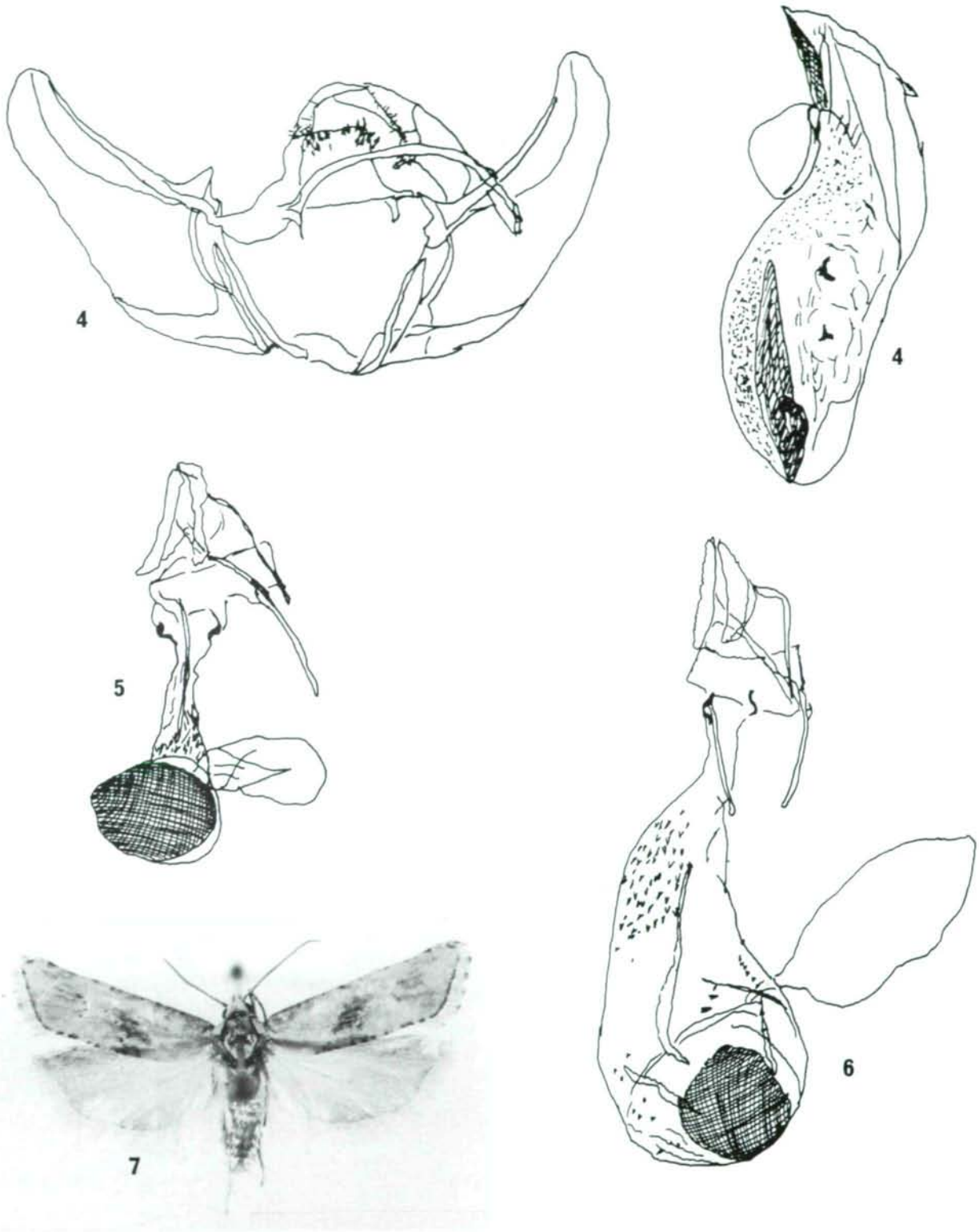


fig. 4 - *Cochylimorpha cultana* (LED.), ♂-genitalia, G.-slide 3065, K.Larsen, Libya, Gharian: Wadi El Hira, 5.4.1983 (U.Seneca, coll. K.Larsen); fig. 5 - *C. asiana* (KENNEL), ♀-genitalia, G.slide 3064, K.Larsen, Libya, Gharian: Wadi El Hira, 22.4.1983 (U.Seneca, coll. K.Larsen). fig. 6 - *C. cultana* (LED.), ♀-genitalia, G.-slide 3050, K.Larsen, Lybia, Gharian: Wadi El Hira, 30.4.1983. (U.Seneca, coll. K.Larsen); fig. 7 - *C. straminea* (HW.) ♂, Neotype of *E. translucidana* (TURATI).